

LETTER TO THE EDITOR

Bleeding ectopy as an indicator for genital tract infections

Many clinical syndromes have been defined associated with genital tract infections. We now describe an association of bleeding ectopies with genital tract infection in a setting where women were infected with multiple agents.

Two hundred and fifty seven consecutive women attending a major womens' clinic in New Delhi were screened for different genital infections. Sixty six women (25.7%) had bleeding ectopy on speculum examination. The results of different genital tract infections are given in the accompanying table. The association of different genital infections with bleeding ectopy and other lesions was determined by calculating odds ratio (ORs) and their 95% confidence intervals (95% CI). Human papillomavirus infection was detected using cytology and colposcopy. Colposcopy-directed biopsy specimens were obtained for histo-diagnosis and the presence of HPV infection was confirmed using in situ hybridisation techniques (Kreatech Biotech, Amsterdam, Netherlands). Fifty nine of 66 (89.4%) of bleeding ectopies and 68 (35.6%) other cervical lesions harboured HPV. The difference was highly significant (OR = 15.2, 95% CI 6.3, 38.8).

Bacterial vaginosis was diagnosed using standardised criteria¹ and was detected in 35 (53.0%) cases of bleeding ectopies and 51 cases (26.7%) of other lesions. The difference was significant (OR = 3.1, 95% CI 1.7, 5.8). Chlamydia antigen was detected, using ELISA technique (Abbott) in 17 cases (25.8%) of bleeding ectopies and 43 (22.5%) in other lesions. The difference was not statistically significant. Furthermore, no statistical differences were obtained for detection of antibodies of the IgA class to HSV (IFA technique,² *T. Vaginalis* (wet smear), candida (wet smear and Gram staining), syphilis anti-

bodies (TPHA), gonorrhoea antigen (ELISA, Abbott) among the two groups. HIV was found in none of the study subjects. Multivariate analysis was undertaken and odds ratios were calculated adjusting for age, parity and other genital infections. The association of HPV and bacterial vaginosis not only persisted but became even stronger as revealed through improved odds ratios. Thus, the odds ratio for HPV infection was 29.4 (95% CI 10.9, 79.0) in multivariate analysis as against 15.2 in the univariate analysis. Similarly ORs increased for bacterial vaginosis infection (OR = 6.6, 95% CI 2.8, 15.8) in multivariate analysis as compared with that in the univariate analysis (OR = 3.1, 95% 1.7, 5.8).

Furthermore, a very high proportion (63/66; 95.5%) of women with bleeding ectopies harboured one or both the infections. We therefore believe that the women with bleeding ectopies should be evaluated for those two infections.

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- 2 Gupta MM, Jain R, Parashari A, Singh V, Satyanarayana L. HSV-IgA serum antibodies in cervical intraepithelial neoplasia and invasive cancer patients and their spouses: a case-control study. *Acta Pathol Microbiol Scan* 1992; 100:598-604.

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Table Association of bleeding ectopy and genital tract infections

Genital tract infections	Bleeding Ectopy		Strength of association	
	Present (n=66)	absent (n=191)	Odds ratio (p value)	Adjusted* odds ratio (p value)
Human Papilloma-virus infection	59	68	15.2 (0.0000)	29.4 (0.0000)
<i>T. vaginalis</i>	7	33	0.47 (0.31)	0.08 (0.0001)
Bacterial vaginosis	35	51	3.1 (0.0001)	6.6 (0.0001)
Herpes simplex virus (IgA antibodies)	15	38	1.2 (0.62)	0.72 (0.47)
Chlamydia	17	43	1.2 (0.59)	1.4 (0.49)
Candida	4	12	0.96 (0.9)	0.39 (0.21)
Gonorrhoea	2	12	0.47 (0.31)	0.24 (0.12)
Syphilis	3	8	1.09 (0.9)	1.9 (0.71)

*adjusted for age, parity and different genital infections.